

Amendment to the Claims:

Before claim 1, please delete the word "Claims" and substitute the following:
What is claimed is:

Please cancel all of the claims of the application, namely claims 1-10, and add the following new claims 11-20:

1-10 (Canceled)

11. (New) A device comprising at least two compartments, one of said at least two compartments being at least partially defined to an exterior by a first set of barriers permeable for a set of species, another of said at least two compartments being separated from said one of said at least two compartments by a second set of barriers permeable only for a subset of said species; and wherein only a subset of species that permeates into said one compartment permeates further on into said other compartment(s).

12. (New) A device in accordance with claim 11, wherein said first set of barriers is permeable for species up to and including the size of a specific molecule, and said second set of barriers is permeable for species below said size of said specific molecule.

13. (New) A device in accordance with claim 11, wherein at least one of said compartments is filled with a solution having a known concentration of solutes, all solutes in said solution being unable to permeate through said barriers defining said compartment.

14. (New) A device in accordance with claim 12, wherein said specific molecule is glucose.

15. (New) A device in accordance with claim 13, wherein one of said solutes in said solution is glucose.

16. (New) A device in accordance with claim 11, wherein said device is implantable and has an outer surface, which is substantially biocompatible.

17. (New) A device in accordance with claim 11, wherein said device further contains pressure-sensing means capable of sensing said pressures in said compartments.

18. (New) A device in accordance with claim 17, wherein said pressure sensing means comprises a pressure sensor for sensing said pressure exterior to said compartments.

19. (New) A device in accordance with claim 17, wherein said pressure sensing means contains a differential pressure sensor.

20. (New) A device in accordance with claim 17, wherein said pressure sensing means is at least partly formed by a flexible compartment wherein deflecting of said flexible compartment will, increase or decrease in volume when said pressure in said compartment increases or decreases.